

Fish & Richardson P.C.
1000 Maine Avenue, S.W.
Suite 1000
Washington, DC 20024
202 783 5070 main
202 783 2331 fax

VIA HAND DELIVERY AND ELECTRONIC FILING

December 17, 2018

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th St. SW
Washington, D.C. 20554

Terry G. Mahn
Principal
mahn@fr.com
202 626 6421 direct

Re: Request for Confidential Treatment
Petition to Modify Waiver of Part 15 of the Commission's Rules Applicable to Ultra-Wideband Devices

Dear Ms. Dortch:

Pursuant to Section 1.3 of the rules of the Federal Communications Commission ("Commission"), Proceq USA Inc. ("Proceq") hereby submits the attached confidential version of its Petition to Modify Waiver, the redacted version of which has been filed electronically.

Proceq requests, pursuant to Sections 0.457 and 0.459 of the Commission's rules, that the Commission afford confidential treatment to the information in the attached Petition that has been marked confidential, and withhold that information from public inspection. The Petition relates to Proceq's technologically-sophisticated ground penetrating radar (GPR) device, and includes company-specific, commercially sensitive, confidential information. Disclosure of the proprietary information contained within the Petition would have a negative competitive impact on Proceq if made publicly available. Such information falls within Exemption 4 of the Freedom of Information Act ("FOIA"),¹ as well as the Commission's rule² describing protection of information not routinely made available for public inspection.

In support of this request and pursuant to Section 0.459(b) of the Commission's rules, Proceq hereby states as follows:

1. Identification of the specific information for which confidential treatment is sought.

Proceq requests confidential treatment with respect to confidential information redacted from the version of the Petition filed electronically with the Commission.

2. Identification of the Commission proceeding in which the information was submitted or a description of the circumstances giving rise to the submission.

¹ 5 U.S.C. § 552(b)(4).

² 47 C.F.R. § 0.457(d).

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Proceq submits this information with respect to a petition to modify an earlier Part 15 waiver granted by the Commission.

3. Explanation of the degree to which the information is commercial or financial, or contains a trade secret or is privileged.

The information redacted in the attached Petition contains confidential design and operational disclosures about a technically-sophisticated ground penetrating radar (GPR) device currently under development. This information will not be made publicly available, if at all, until after an equipment certification is granted by the Commission, which will not occur for several months.

4. Explanation of the degree to which the information concerns a service that is subject to competition.

The confidential information involves ultra-wideband GPR/wall imaging technology, a highly competitive commercial product.

5. Explanation of how disclosure of the information could result in substantial competitive harm.

Disclosure of the information included in the Petition could cause substantial competitive harm by providing competitors with insight as to technical design and operation of Proceq's next-generation GPR/wall-imaging technology.

6. Identification of any measures taken by the submitting party to prevent unauthorized disclosure.

The information will be kept confidential with the company and will not be made publicly available, if at all, until an equipment certification is granted by the Commission, which will not occur for several months.

7. Identification of whether the information is available to the public and the extent of any previous disclosure of the information to third parties.

The information is not available to the public and has not been previously disclosed to third parties except under non-disclosure agreements.

8. Justification of the period during which the submitting party asserts that material should not be available for public disclosure.

Proceq requests that the information identified in the Petition be treated as confidential until an equipment certification is granted, at which time, a decision will be made by the Commission on further confidential protection of this information.

9. Any other information that the party seeking confidential treatment believes may be useful in assessing whether its request for confidentiality should be granted.

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Proceq has nothing further to add.

If a request for disclosure occurs, please provide sufficient advance notice to the undersigned prior to any such disclosure to allow Proceq to pursue appropriate remedies to preserve the confidentiality of the information.

Respectfully submitted,

By: /s/ Terry G. Mahn

Terry G. Mahn

Fish & Richardson P.C.
1000 Maine Avenue S.W.
Suite 1000
Washington, D.C. 20024
(202) 783-5070

Counsel to Proceq USA Inc.

December 17, 2018

In the Matter of)
)
Proceq USA Inc.)
)
Waiver of Part 15 of the Commission's Rules)
Applicable to Ultra-Wideband Devices)

Petition to Modify Part 15 Rule Waiver

Specifically, the Commission’s *Waiver Order* applied to: (1) the “at any point in time” requirement of Section 15.503(d), which requires a UWB device to have a fractional bandwidth equal to or greater than 0.20 or a UWB bandwidth equal to or greater than 500 MHz; and (2) the requirements in Sections 15.31(c) and 15.521(d), which direct that the emissions from the device are to be measured with the transmitter operating with the stepping function stopped. The

Commission waived these rules to allow a stepped-frequency CW-modulated transmitter operating between 200 MHz and 4000 MHz to qualify as a UWB/GPR device and to permit such a device to be measured for compliance with the stepping function active. In addition, the *Waiver Order* imposed the following conditions based on the specific technical design of the waived device:

- The device shall operate with stepped frequency CW modulation in 10, 20, or 40 megahertz steps between 200 and 4000 MHz.
- The device dwell time on any one frequency shall not exceed 2 microseconds.
- The dwell time during any step shall not exceed 0.04 percent of the device's minimum scan/cycle rate.
- The device will comply with all other technical and operational requirements applicable to UWB GPR devices under Part 15, Subpart F of the Commission's rules.
- The entities permitted to operate the Proceq GPR device are limited to those specified in Section 15.509(b) of the Commission's rules.
- The conditions established for this waiver are not applicable to mass marketed UWB GPR devices where further analysis would be necessary to assess the potential impact to authorized users.²

In the 14 months since Proceq first submitted its waiver request to the Commission, development has been ongoing on a new GPR product, which reuses and improves upon the technical design of Proceq GPR Live, with the goal to enhance technical performance and respond to customer needs in further applications. Although many of the technical changes are minor, some of them fall outside the strict operating conditions set forth in the *Waiver Order*. Nonetheless, they pose no greater risk of causing harmful interference to communication services

² *Waiver Order* at 4.

than the original Proceq GPR Live device or other UWB devices permitted under the existing rules and thus, a grant of this Petition will serve the public interest.

Proceq submits that these modifications to its waived device can be granted by the Chief of the Office of Engineering and Technology (“OET”) under its general delegation of authority.³ In addition, Proceq requests, as it did with its initial waiver request, that this Petition not be put on public notice to avoid the months of unnecessary delays that will result from the repetitious industry filings that accompany all such UWB waiver requests, even as to regulatory matters that have long been resolved.

Introduction

Proceq SA is a leading Swiss provider of advanced material testing solutions used and relied upon by many industries throughout the world. The company is known globally as an innovative manufacturer of products that enable the non-destructive testing (“NDT”) of materials such as concrete, metal, rock and composites. Proceq’s NDT devices provide industrial users with data that is critical to evaluating and improving the safety, durability and sustainability of materials used in their businesses, as well as to ensuring the structural integrity of infrastructure and safety to the public.

The Proceq GPR Live device has been a commercial success in U.S. and in the international markets where it is sold. The device relies on stepped-frequency CW modulation to suppress RF interference from other sources (e.g., WiFi, GSM, etc.) that often impede conventional GPR performance. The stepped-frequency design also provides better power density control across the operating bandwidth and allows for more simplified electronics in

³ See 47 C.F.R. § 0.241.

terms of pulse generation and sampling and optimal power consumption. In short, the technical design of Proceq GPR Live provides numerous benefits over conventional impulse GPR to the industries that rely on these technologies.

In an effort to address customer needs in new applications through improved product performance, the technical design of the Proceq GPR Live device was recently used as the basis of development for a new device, and modified to increase the operating bandwidth, dwell time per step, and duty cycle (i.e., dwell time as a percentage of the minimum scan/cycle rate). In addition, the 10 MHz frequency step option has been eliminated as an option for the new device. Finally, preliminary EMC testing in accordance with the *Waiver Order* has confirmed that the new GPR device will meet the technical requirements set forth in Sections 15.509 and 15.521 of the Commission's rules.

Modifications to the Proceq Device are Minor and do not Require Any New Rule Waivers

The new GPR device by Proceq does not require any changes to the *Waiver Order* in terms of the specific rules that have been waived by the Commission. The new device will continue to comply with the *Waiver Order* as it applies to Sections 15.503(d), 15.31(c) and 15.521(d) of the rules. As noted, the only changes relative to the waived device involve an increase in the range of operation, dwell time per frequency step, and duty cycle.

More specifically, the new device with the modified technical design will feature the same stepped-frequency CW modulation as the original Proceq GPR Live device but will now operate

[***BEGIN CONFIDENTIAL***]

[REDACTED]

[REDACTED]

[REDACTED]. [***END CONFIDENTIAL***] This expanded upper bandwidth limit is still

well below the 10.6 GHz upper limit set forth in Section 15.509(a) for GPR devices and thus, should not raise any regulatory concerns. In addition, the modified device will operate in frequency steps of 20 MHz or 40 MHz steps only, with the 10 MHz step option now being eliminated.

*****BEGIN CONFIDENTIAL***** [REDACTED]

[REDACTED]

[REDACTED] *****END**

CONFIDENTIAL*]** Proceq submits the dwell time change is relatively minor and, given the expanded operating range for the device, poses little risk of causing greater harmful interference to communication services than other stepped-frequency GPR devices approved under Commission waivers.

Furthermore, the combined changes result in a new handheld GPR device with

*****BEGIN CONFIDENTIAL***** [REDACTED]

[REDACTED]. *****END**

CONFIDENTIAL*]** These two advances result in a new GPR product that enables customers to access and reliably investigate small and tight spaces in buildings and infrastructure. Customers thus benefit from an increased range of applications and situations they can address, thus expanding their service offering. Meanwhile, the end-customers of users and the general public benefit from an improved assessment of the structural integrity of buildings and infrastructure, thanks to the increased coverage of applications that have, thus far, remained difficult to address due to the performance limitations of prior GPR devices with a similarly small form factor.

This Petition Should be granted by the Chief Engineer Under Delegated Authority

The Commission has analyzed and granted waivers for UWB devices that operate very similarly to the original waived and the newly modified Proceq devices. It has consistently ruled that stepped-frequency transmitters operating over at least 500 MHz of spectrum are no more likely to cause harmful interference to communications services than conventional impulse UWB devices⁴ even when tested with the stepping function active.⁵ In each case, the Commission also imposed various operating conditions that tracked the technical features of the device, thereby rendering each waiver unique to a particular product. If one or more of these technical features were to change, even minimally, the waiver conditions could not be met and the device manufacturer would be required to seek Commission approval to implement the new features.

This is the situation faced by Proceq, with the new GPR device based on the technical design of the original waived Proceq GPR Live device; minor, evolutionary technical changes have been made that fall outside the strict requirements of *Waiver Order* and, therefore, must be approved by the Commission. Proceq submits, however, that it cannot be an efficient expenditure of Commission resources to review and approve minor technical changes to the technical design of a waived device that have little or no impact on the interference concerns addressed in the initial waiver grant. Instead, it makes more sense for these types of changes to be handled by the OET Chief under its general delegation of authority.

Section 0.241 of the Commission's rules sets forth the scope of the OET Chief's authority

⁴ See, e.g., *Curtiss-Wright Controls, Inc. Request for Waiver of Part 15 of the Commission's Rules Applicable to Ultra-Wideband Devices*, ET Docket No. 10-167, Order, 27 FCC Rcd 234 (2012); see also *Kyma Medical Technologies Ltd. Request for Waiver of Part 15 of the Commission's Rules Applicable to Ultra-Wideband Devices*, ET Docket No. 15-119, Order, 31 FCC Rcd 9705 (2016).

⁵ See *Petition for Waiver of the Part 15 UWB Regulations Filed by the Multi-band OFDM Alliance Special Interest Group*, ET Docket No. 04-352, Order, 20 FCC Rcd 5528 (2005). See also *Petition for Waiver of the Part 15 UWB Regulations Filed by Multi-band OFDM Alliance Special Interest Group*, ET Docket No. 04-352, Third Memorandum Opinion and Order and Memorandum Opinion and Order, 25 FCC Rcd 11390 (2010) (denying petitions requesting reconsideration of the Commission's decision to permit UWB devices to be measured in normal transmission mode).

to act on behalf of the Commission, which includes the administration of the Part 2 and Part 15 rules and the equipment authorization program. The OET Chief is required to refer waiver requests to the Commission *en banc* when such requests “contain new or novel arguments not previously considered by the Commission or present facts or arguments which appear to justify a change in Commission policy.”⁶ Here, there are no new or novel facts or arguments that involve a change in Commission policy. Indeed, the only new “facts” are minor changes made to the technical design of the Proceq GPR Live device that do not impact device operations or raise new interference concerns. Proceq has preliminarily tested the new device for compliance under the rules and can confirm that it was shown to be compliant with UWB/GPR emission limits. Thus, Proceq asserts that there is no pressing public interest served in soliciting comments on this Petition, as a public comment period will serve only to delay the approval and marketing of a device whose minor technical modifications raise no new regulatory concerns.

Conclusion

Based on the foregoing, Proceq respectfully submits that a grant of this Petition will serve the public interest and should be granted expeditiously by the Chief of OET.

⁶ No party opposed the Kyma waiver request, and several parties filed in support of it. One party encouraged the Commission to obtain additional technical information from Kyma, which Kyma supplied. While several parties supported the Curtiss-Wright waiver request, two parties opposed it. The Commission evaluated those oppositions in detail and found that they were without merit. *See also* 47 C.F.R. § 0.241.

Respectfully submitted,

By: /s/ Terry G. Mahn

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